

CLAIMS:

1. A position measuring system for determining the position of two structural components(B1, B2), having
 - a first support (G) for receiving a scale graduation (L) of the position measuring system, which is set up and provided for being fastened to one of the two structural components (B2),
 - a second support (F) for receiving a scanning unit (K) of the position measuring system, which is set up and provided for being fastened to the other one (B1) of the two structural components,and connecting means (S, M) for fastening the two supports (G, F) on the respectively assigned structural component (B1, B2), wherein
 - at least one of the connecting means is comprised of a nut (M), with which a screw (S) can be brought into engagement,
 - the nut (M) can be inserted into a recess (100) of one of the two supports (G, F).characterized by
 - a blocking element (1, 2, 3, 4, 5, 6, 7, 8) which, in the inserted state, works together with the nut (M) in order to prevent a movement of the nut (M) out of the recess (100) in the axial direction (-R) sufficiently far so that the insertion of the screw into the nut (M) is made possible.
2. The position measuring system in accordance with claim 1, characterized in that the blocking element is a clip (1, 2, 3, 4, 5) by which the recess (100) is covered, and that the nut (M) is arranged in the recess (100) between a bottom (115) of the recess (100) and a contact face (10, 20, 30, 40, 50) of the clip (1, 2, 3, 4, 5).

3. The position measuring system in accordance with claim 2, characterized in that the distance (a) between the bottom (115) of the recess (100) and the contact face (10, 20, 30, 40, 50) of the clip (1, 2, 3, 4, 5) in the axial direction is greater than the thickness (d) of the nut (M).

4. The position measuring system in accordance with one of the preceding claims, characterized in that the clip (1, 2, 3, 4, 5) is arranged in the recess (100) and is fixed in place.

5. The position measuring system in accordance with claim 4, characterized in that the clip (1, 2, 3, 4, 5) is fixed in place against the wall (115, 116), in particular at least on a partially encircling interior wall (116) of the recess (100).

6. The position measuring system in accordance with claim 5, characterized in that the clip (1, 2, 3) presses with at least one edge (18, 28, 38) against the interior wall (116) of the recess (100) in such a way, that it is fixed in place in the recess (100).

7. The position measuring system in accordance with claim 6, characterized in that the clip (1, 2, 3) can be deformed in at least one partial area in such a way, that it presses with prestress against the respective edge (18, 28, 38) against the interior wall (116) of the recess (100).

8. The position measuring system in accordance with claim 6 or 7, characterized in that the clip (1) has at least two angled-off sections (16) extending along the interior wall (116) of the recess (100), and that at least one tongue (17) is provided on the respective angled-off section (16), which acts by means of an edge (18) on the interior wall (116) of the recess (100).

9. The position measuring system in accordance with claim 6, characterized in that the clip (2, 3) has a substantially flat base body (20, 30), which can be elastically deformed in such a way that it rests under prestress with at least one outer edge (28, 29) against the interior wall (116) of the recess (100).

10. The position measuring system in accordance with claim 4, characterized in that the clip (4, 5) can be fixed in place with positive contact in the recess (100).

11. The position measuring system in accordance with claim 10, characterized in that the clip (4, 5) can be fixed in place in the recess (100) by means of a snap-in connection (49, 119) and/or by means of a plug connection (53, 113).

12. The position measuring system in accordance with claim 11, characterized in that the snap-in connection is comprised of at least one snap-in hook (46), which engages an undercut (119) with a snap-in section (49), wherein the at least one snap-in hook (46) is provided on the clip (4), and the snap-in opening (119) at the interior wall (116) of the recess (100).

13. The position measuring system in accordance with claim 10, characterized in that for fixing the clip (5) in place in the recess, at least one pin (53) engages an associated hole (113), wherein the pin (53) is provided on the clip (5) and the hole (113) in the vicinity of the recess (100).

14. The position measuring system in accordance with one of the preceding claims, characterized in that the clip (1, 2, 3, 4, 5) has an elongated hole (15, 25, 35, 4, 55) in a base body (10, 20, 30, 40, 50), into which the screw (S) can protrude.

15. The position measuring system in accordance with one of the preceding claims, characterized in that the clip (1, 2, 3, 4, 5) is embodied in such a way that it

acts as a safeguard against twisting, which counteracts the twisting of the nut (M) in the recess (100).

16. The position measuring system in accordance with claim 15, characterized in that the clip (1, 2, 3, 4, 5) has means for enclosing the nut (M) in a positively-connected manner.

17. The position measuring system in accordance with claim 1, characterized in that the nut (M) can be clamped in the recess (100) by means of the blocking element (6, 7).

18. The position measuring system in accordance with claim 1 or claim 19, characterized in that the blocking element (6, 7, 8) is designed and arranged in such a way that it is already effective when inserting the nut (M) in the recess (100), in that the blocking element (6, 7, 8) is already applied to the recess (100) or the nut (M) when inserting the nut (M) in the recess (100).

19. The position measuring system in accordance with claim 17 or 18, characterized in that the blocking element is an elastically yielding means (6, 7) arranged between the interior wall (116) of the recess (100) and the outer circumference of the nut (M), and by means of which the nut (M) can be clamped in the recess (100).

20. The position measuring system in accordance with claim 19, characterized in that the elastically yielding means is an O-ring (6).

21. The position measuring system in accordance with claim 20, characterized in that the O-ring (6) is maintained in a groove (120) of the recess (100) or in a groove (121) in the nut (M).

22. The position measuring system in accordance with claim 19, characterized in that the elastically yielding means is an elastic coating (7) of the nut (M) or the recess (100).

23. The position measuring system in accordance with claim 1, characterized in that the blocking element is an elastically yielding element (8), which delimits the access opening of the recess (100) for inserting the nut (M) over the circumference and, in the course of inserting the nut (M), exerts a resistance on the nut (M), which can be overcome, but releases the circumference of the nut (M) once the nut (M) has been inserted into the recess (100).

24. The position measuring system in accordance with claim 23, characterized in that the elastically yielding means is an O-ring (6).

25. The position measuring system in accordance with claim 1, characterized in that the O-ring (6) is maintained in a groove (121) of the recess (100).

26. The position measuring system in accordance with one of claims 23 to 25, characterized in that the distance (a) in the axial direction (R) between the bottom (115) of the recess (100) and the blocking element (8) is greater than or equal to the thickness (d) of the nut (M).

27. The position measuring system in accordance with one of the preceding claims, characterized in that the geometric design of the recess (100) constitutes a safeguard against twisting which counteracts twisting of the nut (M) in the recess (100).

28. The position measuring system in accordance with one of the preceding claims, characterized in that it is designed as a linear measuring device with a linear scale graduation (L).

29. The position measuring system in accordance with claim 28, characterized in that the first support is constituted by a housing (G) of the linear scale graduation (L), and the second support by a mounting base (F), with which the scanning unit (K, W) scanning the scale graduation (L) is connected.

30. The position measuring system in accordance with one of the preceding claims, characterized in that the recess is designed to extend in a longitudinal direction in such a way that the nut (M) can be shifted therein with a component perpendicular to the axial direction of the associated screw (S).